

**Engineering Analysis
ECOVERY LLC
501-0048**

Project Description

On July 18, 2016, ECOVERY LLC submitted an air permit application for the installation of a slag crushing system with baghouse. Additional information was received on August 8, 2016. The slag crushing system would be used to handle slag from the existing aluminum melting furnace. The system consists of a jaw crusher, hammermill, and a screen with all being controlled by a baghouse. The slag crushing system would be able to process a maximum of 30,000 lbs of slag per hour. The facility is currently a synthetic minor in regards to Title V and a minor source with regards to PSD located in Loxley.

Emissions

The only emissions of significance from the slag crushing system would be particulate matter (PM) emissions. The controlled potential emissions are based on the grain loading of the proposed baghouse of 0.02 gr/dscf. The controlled potential PM emissions would be 1.60 lbs/hr (7.02 TPY). The allowable emissions set by ADEM Admin Code R. 335-3-4-.04 would be 19.24 lbs/hr (84.28 TPY). The facility wide PM emissions including the proposed slag crushing system are shown below:

Pollutant	Facility Wide Emissions
	TPY
PM	130.54
PM₁₀	130.27
PM_{2.5}	25.71

Based on the above table ECOVERY would be considered major in regards to Title V, therefore ECOVERY has requested a PM/PM₁₀ limit of 0.68 lbs/hr (2.97 TPY) on the existing aluminum melting rotary furnace and a PM limit of 1.60 lbs/hr (7.02 TPY) on the proposed slag crushing system. The facility wide emissions for all pollutants with the proposed limits included are shown below:

Pollutant	Facility Wide Emissions
	TPY
PM	14.78
PM₁₀	14.51
PM_{2.5}	25.71
SO₂	61.67
NO_x	10.69
VOC	42.22
HAPs (Total)	9.50
HCl	9.50
CO₂e	5,288

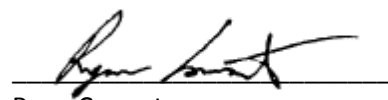
Title V/PSD/NSPS/NESHAP/112g/Air Toxics

ECOVERY, LLC. is a synthetic minor source with regards to Title V and PSD. With the inclusion of the proposed slag crushing system the facility wide limited potential emissions are below the 100 TPY threshold for any criteria pollutants, the 10 TPY threshold for any single HAP, and the 25 TPY threshold for total HAPs; therefore the facility remains a synthetic minor source in regards to Title V. The potential to emit from the slag crushing system is below the 100 TPY threshold for PSD, so ECOVERY would not be subject to PSD. There are no National Emission Standards for Hazardous Air Pollutants applicable to the slag crushing system. There are no New Source Performance Standards applicable to the installation of the slag crushing system.

Air Toxics are not expected to be emitted in significant quantities, so an Air Toxics review would not be necessary. Because HAP emissions would not be expected to be above the major source threshold (greater than 10 TPY of any single HAP or 25 TPY of any combination of HAPs), a 112(g) case by case MACT review would not be necessary. Emissions from the slag crushing system would not be expected to impact any Class I Area, the closest of which is more than 100 km from ECOVERY.

Recommendation

Based upon the analysis presented in the previous paragraphs, I recommend issuing Synthetic Minor Operating Permit No. 501-0048-X002 for the proposed slag crushing system and re-issuing Synthetic Minor Operating Permit No. 501-0048-X001 to reflect the particulate matter emissions limit taken.



Ryan Cowart
Industrial Minerals Section
Energy Branch
Air Division

August 31, 2016
Date